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(54) DATA RECORDING AND REPRODUCING METHOD AND DEVICE, DATA RECORDING AND REPRODUCING METHOD, DATA REPRODUCING DEVICE AND REPRODUCING METHOD AND RECORDING MEDIUM

(57)Abstract：

PROBLEM TO BE SOLVED: To make duplication in a range of personal use free and to effectively prevent deliberate illicit duplication.

SOLUTION: A user ID module 20 is connected to the recording and reproducing device 10 and user identification information for specifying a user is acquired from the user ID module 20 and is recorded together with recording data to a recording medium 30 in recording the prescribed recording data. The reproduction of the recording information is permitted when the user identification information detected from the information from the recording medium 30 and the user identification information read out of a non-volatile memory 14 coincide in reproducing the prescribed recording data.

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CLAIMS

[Claim(s)]

[Claim 1] It is the data-logging playback approach characterized by to permit playback of said record data when said user identification information which recorded the user identification information for specifying a user on the record medium with said record data, and was detected from the information from said record medium at the time of playback of said record data, and said user identification information acquired from other than said record medium are in agreement at the time of record of record data.

[Claim 2] The data-logging playback approach characterized by making said user identification information which said user identification information prepared the nonvolatile memory memorized beforehand, and read from said nonvolatile memory in the data-logging playback approach according to claim 1 at the time of said playback into said user identification information acquired from other than said record medium.

[Claim 3] It is the data-logging playback approach characterized by canceling said encryption when said user identification information which said record data are enciphered in the data-logging playback approach according to claim 1, and was detected from the information from said record medium at the time of said playback, and said user identification information acquired from other than said record medium are in agreement.

[Claim 4] It is the data-logging playback approach characterized by relating said record data encryption with said user identification information in the data-logging playback approach according to claim 3.

[Claim 5] The data-logging playback approach characterized by acquiring said user identification information from the user identification information offer equipment of another object with a recording device in the data-logging playback approach according to claim 1 at the time of record of said record data.

[Claim 6] The data-logging playback approach characterized by making record of said record data improper in the data-logging playback approach according to claim 5 when said user identification information offer equipment is not connected to said recording

apparatus.

[Claim 7] The data-logging playback approach characterized by making said user identification information which said user identification information prepared the nonvolatile memory memorized beforehand, and read from said nonvolatile memory in the data-logging playback approach according to claim 5 into said user identification information acquired from other than said record medium.

[Claim 8] It is the data-logging playback approach characterized by enciphering said user identification information from said user identification information offer equipment in the data-logging playback approach according to claim 5, and making it supply said recording apparatus.

[Claim 9] It is the data-logging playback approach characterized by being the information on a proper for every equipment concerned with which said user identification information from said user identification information offer equipment was beforehand stored in said user identification information offer equipment in the data-logging playback approach according to claim 5.

[Claim 10] It is the data-logging playback approach characterized by said user identification information being biological information, such as a fingerprint, a voiceprint, and a pulse, in the data-logging playback approach according to claim 1.

[Claim 11] Said user identification information recorded on said record medium with said record data in the data-logging playback approach according to claim 1 is the data-logging playback approach characterized by embedding to said record data.

[Claim 12] Said user identification information acquired at the 1st user identification information acquisition process for acquiring the user identification information for specifying a user, and said 1st user identification information acquisition process with record data Record down stream processing recorded on a record medium, and the 2nd user identification information acquisition process for acquiring said user identification information, The user identification information detection process of detecting said user identification information from the information from said record medium, In the judgment process which judges whether said user identification information detected at said user identification information detection process and the user identification information acquired at said 2nd user identification information acquisition process are in agreement, and said judgment process The data-logging playback approach equipped with the regeneration process which permits playback of said record data currently recorded on said record medium, and is made to perform playback when judged with said user identification information having been in agreement.

[Claim 13] The data-logging playback approach characterized by reading said user identification information in the data-logging playback approach according to claim 12 from the nonvolatile memory said user identification information was beforehand remembered to be at said 1st user identification information acquisition process and said 2nd user identification information acquisition process.

[Claim 14] It is the data-logging playback approach characterized by record thru/or a regenerative apparatus acquiring said user identification information from the user identification information offer equipment of another object in the data-logging playback approach according to claim 12 at said 1st user identification information acquisition process and said 2nd user identification information acquisition process.

[Claim 15] The data-logging playback approach characterized by reading said user identification information at said 1st user identification information acquisition process in the data-logging playback approach according to claim 12 from the nonvolatile memory to which said user identification information was acquired and said user identification information was beforehand remembered to be record thru/or a regenerative apparatus at said 2nd user identification information acquisition process from the user identification information offer equipment of another object.

[Claim 16] It is the data-logging playback approach characterized by canceling said encryption when said user identification information which said record data are enciphered in the data-logging playback approach according to claim 12, and was detected from the information from said record medium at the time of said playback, and said user identification information acquired at said 2nd user identification information acquisition process are in agreement.

[Claim 17] It is the data-logging playback approach characterized by being related with said user identification information from which said record data encryption was acquired at said 1st user identification information acquisition process in the data-logging playback approach according to claim 12.

[Claim 18] The data-logging playback approach characterized by making record of said record data improper in the data-logging playback approach according to claim 12 when said user identification information cannot be acquired at said 1st user identification information acquisition process.

[Claim 19] It is the data-logging playback approach characterized by enciphering said user identification information from said user identification information offer equipment in the data-logging playback approach according to claim 14 or 15.

[Claim 20] It is the data-logging playback approach characterized by being the information on a proper for every equipment concerned with which said user

identification information from said user identification information offer equipment was beforehand stored in said user identification information offer equipment in the data-logging playback approach according to claim 14 or 15.

[Claim 21] It is the data-logging playback approach characterized by said user identification information being biological information, such as a fingerprint, a voiceprint, and a pulse, in the data-logging playback approach according to claim 12.

[Claim 22] Said user identification information recorded on said record medium with said record data in the data-logging playback approach according to claim 12 is the data-logging playback approach characterized by embedding to said record data.

[Claim 23] The data-logging regenerative apparatus characterized by having the control means to which playback of said recording information is permitted when a record means to record the user identification information for specifying a user with record data on a record medium, said user identification information detected from the information from said record medium, and said user identification information acquired from other than said record medium are in agreement.

[Claim 24] The data-logging regenerative apparatus characterized by making said user identification information which said user identification information was equipped with the nonvolatile memory memorized beforehand, and read from said nonvolatile memory in the data-logging regenerative apparatus according to claim 23 into said user identification information acquired from other than said record medium.

[Claim 25] It is the data-logging regenerative apparatus characterized by canceling said encryption when said user identification information which was equipped with a means for said record processing means to encipher said record data in a data-logging regenerative apparatus according to claim 23, and to record, and was detected from the information from said record medium at the time of playback, and said user identification information acquired from other than said record medium are in agreement.

[Claim 26] It is the data-logging regenerative apparatus characterized by relating said record data encryption with said user identification information in a data-logging regenerative apparatus according to claim 25.

[Claim 27] The data-logging regenerative apparatus characterized by acquiring said user identification information from the user identification information offer equipment of another object with a record regenerative apparatus in a data-logging regenerative apparatus according to claim 23 at the time of record of said record data.

[Claim 28] The data-logging regenerative apparatus characterized by making record of said record data improper in a data-logging regenerative apparatus according to claim

27 when said user identification information offer equipment is not connected to said recording apparatus.

[Claim 29] The data-logging regenerative apparatus characterized by making said user identification information which said user identification information was equipped with the nonvolatile memory memorized beforehand, and read from said nonvolatile memory in the data-logging regenerative apparatus according to claim 27 into said user identification information acquired from other than said record medium.

[Claim 30] It is the data-logging regenerative apparatus characterized by enciphering said user identification information from said user identification information offer equipment in a data-logging regenerative apparatus according to claim 27.

[Claim 31] It is the data-logging regenerative apparatus characterized by being the information on a proper for every equipment concerned with which said user identification information from said user identification information offer equipment was beforehand stored in said user identification information offer equipment in the data-logging regenerative apparatus according to claim 27.

[Claim 32] It is the data-logging regenerative apparatus characterized by said user identification information being biological information, such as a fingerprint, a voiceprint, and a pulse, in a data-logging regenerative apparatus according to claim 23.

[Claim 33] Said user identification information recorded on said record medium with said record data in a data-logging regenerative apparatus according to claim 23 is a data-logging regenerative apparatus characterized by embedding to said record data.

[Claim 34] Said user identification information acquired with the 1st user identification information acquisition means for acquiring the user identification information for specifying a user, and said 1st user identification information acquisition means with record data A record processing means to record on a record medium, and the 2nd user identification information acquisition means for acquiring said user identification information, When said user identification information detected from the information from said record medium and the user identification information acquired from said 2nd user identification information acquisition means are in agreement A data-logging regenerative apparatus equipped with a regeneration means to permit playback of said record data currently recorded on said record medium, and to be made to perform playback.

[Claim 35] The data-logging regenerative apparatus characterized by equipping said user identification information with the nonvolatile memory memorized beforehand, and reading and acquiring said user identification information from said nonvolatile memory in a data-logging regenerative apparatus according to claim 34 with said 1st

user identification information acquisition means and said 2nd user identification information acquisition means.

[Claim 36] It is the data-logging regenerative apparatus characterized by record thru/or a regenerative apparatus acquiring said user identification information from the user identification information offer equipment of another object in a data-logging regenerative apparatus according to claim 34 with said 1st user identification information acquisition means and said 2nd user identification information acquisition means.

[Claim 37] Record thru/or a regenerative apparatus are a data-logging regenerative apparatus characterized by for said 1st user identification information acquisition means acquiring said user identification information from the user identification information offer equipment of another object, and said 2nd user identification information acquisition means reading and acquiring said user identification information from the nonvolatile memory said user identification information was beforehand remembered to be in a data-logging regenerative apparatus according to claim 34.

[Claim 38] In a data-logging regenerative apparatus according to claim 34 said record processing means It has a means to encipher and record said record data. Said regeneration means The data-logging regenerative apparatus characterized by having a means to cancel said encryption when said user identification information detected from the information from said record medium and said user identification information acquired with said 2nd user identification information acquisition means are in agreement.

[Claim 39] It is the data-logging regenerative apparatus characterized by being related with said user identification information from which said record data encryption was acquired with said 1st user identification information acquisition means in the data-logging regenerative apparatus according to claim 34.

[Claim 40] The data-logging regenerative apparatus characterized by making record of said record data improper in a data-logging regenerative apparatus according to claim 34 when said user identification information cannot be acquired with said 1st user identification information acquisition means.

[Claim 41] It is the data-logging regenerative apparatus characterized by enciphering said user identification information from said user identification information offer equipment in a data-logging regenerative apparatus according to claim 36 or 37.

[Claim 42] It is the data-logging regenerative apparatus characterized by being the information on a proper for every equipment concerned with which said user

identification information from said user identification information offer equipment was beforehand stored in said user identification information offer equipment in the data-logging regenerative apparatus according to claim 36 or 37.

[Claim 43] It is the data-logging regenerative apparatus characterized by said user identification information being biological information, such as a fingerprint, a voiceprint, and a pulse, in a data-logging regenerative apparatus according to claim 34.

[Claim 44] Said user identification information recorded on said record medium with said record data in a data-logging regenerative apparatus according to claim 34 is a data-logging regenerative apparatus characterized by embedding to said record data.

[Claim 45] The user identification information and said user identification information for specifying the user who accompanies the data for record are the data-logging approach characterized by permitting record of said data for record when the user identification information prepared separately is in agreement, and recording said user identification information on a record medium with said data for record.

[Claim 46] The user identification information which accompanies said data for record and said data for record in the data-logging approach according to claim 45 is the data-logging approach characterized by being read from a record medium.

[Claim 47] The user identification information which accompanies said data for record in the data-logging approach according to claim 45 is the data-logging approach characterized by being what extracted from said data for record.

[Claim 48] The user identification information which accompanies said data for record in the data-logging approach according to claim 45 is the data-logging approach characterized by being transmitted through a transmission line with said data for record.

[Claim 49] It is the data-logging approach characterized by said user identification information prepared beforehand being memorized by nonvolatile memory in the data-logging approach according to claim 45.

[Claim 50] It is the data-logging approach characterized by said user identification information prepared beforehand acquiring a recording apparatus from the user identification information offer equipment of another object in the data-logging approach according to claim 45.

[Claim 51] The data-logging approach characterized by making record of said data for record improper in the data-logging approach according to claim 50 when said user identification information offer equipment is not connected to said recording apparatus.

[Claim 52] It is the data-logging approach characterized by enciphering said user

identification information from said user identification information offer equipment in the data-logging approach according to claim 50, and making it supply said recording apparatus.

[Claim 53] It is the data-logging approach characterized by being the information on a proper for every equipment concerned with which said user identification information from said user identification information offer equipment was beforehand stored in said user identification information offer equipment in the data-logging approach according to claim 50.

[Claim 54] It is the data-logging approach characterized by said user identification information being biological information, such as a fingerprint, a voiceprint, and a pulse, in the data-logging approach according to claim 45.

[Claim 55] It is the data-logging approach characterized by what said user identification information is embedded to said data for record in the data-logging approach according to claim 45, and is recorded on said record medium.

[Claim 56] The user identification information and said user identification information for specifying the user who accompanies the data for record are a data recorder characterized by recording said user identification information on a record medium with said data for record when record is permitted by the control means to which record of said data for record is permitted when the user identification information prepared separately is in agreement, and said control means.

[Claim 57] The user identification information which accompanies said data for record and said data for record in a data recorder according to claim 56 is a data recorder characterized by being read from a record medium and having a means to detect said user identification information.

[Claim 58] The data recorder characterized by having a means to extract the user identification information which accompanies said data for record from said data for record in a data recorder according to claim 56.

[Claim 59] The user identification information which accompanies said data for record in a data recorder according to claim 56 is a data recorder characterized by being transmitted through a transmission line with said data for record, and having a means to detect said user identification information out of said signal transmitted.

[Claim 60] It is the data recorder characterized by said user identification information prepared beforehand being memorized by nonvolatile memory in a data recorder according to claim 56.

[Claim 61] It is the data recorder characterized by said user identification information prepared beforehand acquiring a recording apparatus from the user identification

information offer equipment of another object in a data recorder according to claim 56.

[Claim 62] The data recorder characterized by making record of said data for record improper in a data recorder according to claim 61 when said user identification information offer equipment is not connected to said recording apparatus.

[Claim 63] It is the data recorder characterized by having a means for said user identification information from said user identification information offer equipment to be enciphered in the data recorder according to claim 61, and to cancel said encryption.

[Claim 64] It is the data recorder characterized by being the information on a proper for every equipment concerned with which said user identification information from said user identification information offer equipment was beforehand stored in said user identification information offer equipment in the data recorder according to claim 61.

[Claim 65] It is the data recorder characterized by said user identification information being biological information, such as a fingerprint, a voiceprint, and a pulse, in a data recorder according to claim 56.

[Claim 66] It is the data recorder characterized by what said user identification information is embedded to said data for record in a data recorder according to claim 56, and is recorded on said record medium.

[Claim 67] The data-logging approach which acquires the user identification information for specifying a user, and is characterized by recording said acquired user identification information on a record medium with record data.

[Claim 68] It is the data-logging approach characterized by giving encryption with which said record data were related with said user identification information in the data-logging approach according to claim 67.

[Claim 69] The data-logging approach characterized by making record of said record data improper in the data-logging approach according to claim 67 when said user identification information is supplied to said recording device and said user identification information offer equipment is not connected to said recording device from the user identification information offer equipment of another object with a recording device.

[Claim 70] It is the data-logging approach characterized by enciphering said user identification information from said user identification information offer equipment in the data-logging approach according to claim 69, and making it supply said recording apparatus.

[Claim 71] It is the data-logging approach characterized by being the information on a

proper for every equipment concerned with which said user identification information from said user identification information offer equipment was beforehand stored in said user identification information offer equipment in the data-logging approach according to claim 69.

[Claim 72] It is the data-logging approach characterized by said user identification information being biological information, such as a fingerprint, a voiceprint, and a pulse, in the data-logging approach according to claim 67.

[Claim 73] It is the data-logging approach characterized by embedding said user identification information to said record data in the data-logging approach according to claim 67.

[Claim 74] A data recorder equipped with the user identification information acquisition means for acquiring the user identification information for specifying a user, and a record processing means to record said user identification information acquired with said user identification information acquisition means on a record medium with predetermined record data.

[Claim 75] It is the data recorder characterized by having a means with which said record processing means related said record data with said user identification information in the data recorder according to claim 74 to carry out encryption processing and to record.

[Claim 76] It is the data recorder characterized by establishing the control means which makes improper record processing actuation by said record processing means when it consists of a means by which said user identification information acquisition means acquires said user identification information from the user identification information offer equipment of another object in a data recorder according to claim 74 and said user identification information offer equipment is not connected.

[Claim 77] It is the data recorder which said user identification information from said user identification information offer equipment is enciphered in the data recorder according to claim 76, and is characterized by equipping said user identification information acquisition means with a means to cancel encryption of said user identification information.

[Claim 78] It is the data recorder characterized by being the information on a proper for every equipment concerned with which said user identification information from said user identification information offer equipment was beforehand stored in said user identification information offer equipment in the data recorder according to claim 76.

[Claim 79] It is the data recorder characterized by said user identification information

being biological information, such as a fingerprint, a voiceprint, and a pulse, in a data recorder according to claim 74.

[Claim 80] It is the data recorder characterized by embedding said user identification information to said record data in a data recorder according to claim 74.

[Claim 81] The user identification information for specifying a user is the playback approach of said record data from the record medium recorded with record data, and said user identification information is detected from the information from said record medium. Said said detected user identification information, The data playback approach which judges whether said user identification information acquired from other than said record medium is in agreement, and is characterized by permitting playback of said record data when in agreement.

[Claim 82] The data playback approach characterized by making said user identification information which said user identification information prepared the nonvolatile memory memorized beforehand, and read from said nonvolatile memory in the data playback approach according to claim 81 at the time of said playback into said user identification information acquired from other than said record medium.

[Claim 83] The data playback approach characterized by supplying said user identification information to said regenerative apparatus, and making it memorize a regenerative apparatus from the user identification information offer equipment of another object to said nonvolatile memory in the data playback approach according to claim 81.

[Claim 84] It is the data playback approach characterized by enciphering said user identification information from said user identification information offer equipment in the data playback approach according to claim 83, and making it supply said recording apparatus.

[Claim 85] It is the data playback approach characterized by being the information on a proper for every user identification information offer equipment concerned with whom said user identification information from said user identification information offer equipment was beforehand stored in said user identification information offer equipment in the data playback approach according to claim 83.

[Claim 86] It is the data playback approach characterized by canceling said encryption when said user identification information which said record data are enciphered in the data playback approach according to claim 81, and was detected from the information from said record medium, and said user identification information acquired from other than said record medium are in agreement.

[Claim 87] It is the data playback approach characterized by relating said record data

encryption with said user identification information in the data playback approach according to claim 86.

[Claim 88] It is the data playback approach characterized by said user identification information being biological information, such as a fingerprint, a voiceprint, and a pulse, in the data playback approach according to claim 81.

[Claim 89] A user identification information detection means by which the user identification information for specifying a user is the regenerative apparatus of said record data from the record medium recorded with record data, and detects said user identification information from the information from said record medium, The data regenerative apparatus characterized by having the control means to which playback of said record data is permitted when said said detected user identification information and said user identification information acquired from other than said record medium were in agreement and it detects.

[Claim 90] The data regenerative apparatus characterized by making said user identification information which said user identification information was equipped with the nonvolatile memory memorized beforehand, and read from said nonvolatile memory in the data regenerative apparatus according to claim 89 into said user identification information acquired from other than said record medium.

[Claim 91] The data regenerative apparatus characterized by acquiring said user identification information from the user identification information offer equipment of another object with a regenerative apparatus, and having a means to make it memorize to said nonvolatile memory in a data regenerative apparatus according to claim 89.

[Claim 92] It is the data regenerative apparatus characterized by having a means for said user identification information from said user identification information offer equipment to be enciphered in the data regenerative apparatus according to claim 91, and to cancel encryption of said user identification information.

[Claim 93] It is the data regenerative apparatus characterized by being the information on a proper for every equipment concerned with which said user identification information from said user identification information offer equipment was beforehand stored in said user identification information offer equipment in the data regenerative apparatus according to claim 91.

[Claim 94] It is the data regenerative apparatus characterized by enabling discharge of said encryption when said user identification information which said record data are enciphered in the data regenerative apparatus according to claim 89, and was detected from the information from said record medium, and said user identification

information acquired from other than said record medium are in agreement.

[Claim 95] It is the data regenerative apparatus characterized by relating said record data encryption with said user identification information in a data regenerative apparatus according to claim 94.

[Claim 96] It is the data regenerative apparatus characterized by said user identification information being biological information, such as a fingerprint, a voiceprint, and a pulse, in a data regenerative apparatus according to claim 89.

[Claim 97] The data-logging playback approach characterized by performing processing according to the playback conditions extracted from the information from said record medium in the data-logging playback approach according to claim 1 when said user identification information is not able to be detected from the information from said record medium at the time of playback of said record data.

[Claim 98] The data-logging playback approach characterized by reproducing with a limit in the data-logging playback approach according to claim 1 when said user identification information is not able to be detected from the information from said record medium at the time of playback of said record data.

[Claim 99] The data-logging playback approach characterized by permitting only the playback accompanied by accounting in the data-logging playback approach according to claim 1 when said user identification information is not able to be detected from the information from said record medium at the time of playback of said record data.

[Claim 100] The data-logging playback approach characterized by making playback improper in the data-logging playback approach according to claim 1 when said user identification information is not able to be detected from the information from said record medium at the time of playback of said record data.

[Claim 101] It is the data-logging playback approach characterized by performing processing according to the playback conditions extracted from the information from said record medium when said user identification information detected from the information from said record medium at the time of playback of said record data and said user identification information acquired from other than said record medium are not in agreement in the data-logging playback approach according to claim 1.

[Claim 102] It is the data-logging playback approach characterized by reproducing with a limit when said user identification information detected from the information from said record medium at the time of playback of said record data and said user identification information acquired from other than said record medium are not in agreement in the data-logging playback approach according to claim 1.

[Claim 103] It is the data-logging playback approach characterized by permitting only

the playback accompanied by accounting when said user identification information detected from the information from said record medium at the time of playback of said record data and said user identification information acquired from other than said record medium are not in agreement in the data-logging playback approach according to claim 1.

[Claim 104] It is the data-logging playback approach characterized by making playback improper when said user identification information detected from the information from said record medium at the time of playback of said record data and said user identification information acquired from other than said record medium are not in agreement in the data-logging playback approach according to claim 1.

[Claim 105] It is the data-logging regenerative apparatus characterized by controlling to perform processing according to the playback conditions extracted from the information from said record medium when said user identification information is not able to detect said control means from the information from said record medium in a data-logging regenerative apparatus according to claim 23.

[Claim 106] It is the data-logging regenerative apparatus characterized by controlling to reproduce with a limit when said control means is not able to detect said user identification information from the information from said record medium in a data-logging regenerative apparatus according to claim 23.

[Claim 107] It is the data-logging regenerative apparatus characterized by permitting only the playback accompanied by accounting when said user identification information is not able to detect said control means from the information from said record medium in a data-logging regenerative apparatus according to claim 23.

[Claim 108] It is the data-logging regenerative apparatus characterized by making playback improper when said user identification information is not able to detect said control means from the information from said record medium in a data-logging regenerative apparatus according to claim 23.

[Claim 109] It is the data-logging regenerative apparatus characterized by controlling to process according to the playback conditions extracted from the information from said record medium when said user identification information by which said control means was detected from the information from said record medium in the data-logging regenerative apparatus according to claim 23, and said user identification information acquired from other than said record medium are not in agreement.

[Claim 110] It is the data-logging regenerative apparatus characterized by controlling to reproduce with a limit when said user identification information by which said control means was detected from the information from said record medium in the

data-logging regenerative apparatus according to claim 23, and said user identification information acquired from other than said record medium are not in agreement.

[Claim 111] It is the data-logging regenerative apparatus characterized by controlling to permit only the playback accompanied by accounting when said user identification information by which said control means was detected from the information from said record medium in the data-logging regenerative apparatus according to claim 23, and said user identification information acquired from other than said record medium are not in agreement.

[Claim 112] It is the data-logging regenerative apparatus characterized by making playback improper when said user identification information by which said control means was detected from the information from said record medium in the data-logging regenerative apparatus according to claim 23, and said user identification information acquired from other than said record medium are not in agreement.

[Claim 113] The data-logging approach characterized by performing processing according to the record conditions acquired along with said data for record when the user identification information for specifying the user who accompanies said data for record in the data-logging approach according to claim 45 is not able to be detected.

[Claim 114] The data-logging approach characterized by permitting only the record accompanied by accounting when the user identification information for specifying the user who accompanies said data for record in the data-logging approach according to claim 45 is not able to be detected.

[Claim 115] The data-logging approach characterized by making record improper when the user identification information for specifying the user who accompanies said data for record in the data-logging approach according to claim 45 is not able to be detected.

[Claim 116] The user identification information and said user identification information for specifying the user who accompanies said data for record in the data-logging approach according to claim 45 are the data-logging approach characterized by performing processing according to the record conditions acquired along with said data for record when the user identification information prepared separately is not in agreement.

[Claim 117] The user identification information and said user identification information for specifying the user who accompanies said data for record in the data-logging approach according to claim 45 are the data-logging approach characterized by permitting only the record accompanied by accounting when the user identification information prepared separately is not in agreement.

[Claim 118] The user identification information and said user identification information for specifying the user who accompanies said data for record in the data-logging approach according to claim 45 are the data-logging approach characterized by making record improper when the user identification information prepared separately is not in agreement.

[Claim 119] It is the data recorder characterized by performing processing according to the record conditions acquired along with said data for record when the user identification information for specifying the user to whom said control means accompanies said data for record in a data recorder according to claim 56 is not able to be detected.

[Claim 120] It is the data recorder characterized by permitting only the record accompanied by accounting when the user identification information for specifying the user to whom said control means accompanies said data for record in a data recorder according to claim 56 is not able to be detected.

[Claim 121] It is the data recorder characterized by making record improper when the user identification information for specifying the user to whom said control means accompanies said data for record in a data recorder according to claim 56 is not able to be detected.

[Claim 122] The data playback approach characterized by processing according to the playback conditions extracted from the information from said record medium in the data playback approach according to claim 81 when said user identification information is not able to be detected from the information from said record medium.

[Claim 123] The data playback approach characterized by reproducing with a limit in the data playback approach according to claim 81 when said user identification information is not able to be detected from the information from said record medium.

[Claim 124] The data playback approach characterized by permitting only the playback accompanied by accounting in the data playback approach according to claim 81 when said user identification information is not able to be detected from the information from said record medium.

[Claim 125] The data playback approach characterized by making playback improper in the data playback approach according to claim 81 when said user identification information is not able to be detected from the information from said record medium.

[Claim 126] It is the data playback approach characterized by performing processing according to the playback conditions extracted from the information from said record medium when said user identification information detected from the information from said record medium and said user identification information acquired from other than

said record medium are not in agreement in the data playback approach according to claim 81.

[Claim 127] It is the data playback approach characterized by reproducing with a limit when said user identification information detected from the information from said record medium and said user identification information acquired from other than said record medium are not in agreement in the data playback approach according to claim 81.

[Claim 128] It is the data playback approach characterized by permitting only the playback accompanied by accounting when said user identification information detected from the information from said record medium and said user identification information acquired from other than said record medium are not in agreement in the data playback approach according to claim 81.

[Claim 129] It is the data playback approach characterized by making playback improper when said user identification information detected from the information from said record medium and said user identification information acquired from other than said record medium are not in agreement in the data playback approach according to claim 81.

[Claim 130] It is the data regenerative apparatus characterized by controlling to perform processing according to the playback conditions extracted from the information from said record medium when said user identification information is not able to detect said control means from the information from said record medium in a data regenerative apparatus according to claim 89.

[Claim 131] It is the data regenerative apparatus characterized by controlling to reproduce with a limit when said control means is not able to detect said user identification information from the information from said record medium in a data regenerative apparatus according to claim 89.

[Claim 132] It is the data regenerative apparatus characterized by permitting only the playback accompanied by accounting when said user identification information is not able to detect said control means from the information from said record medium in a data regenerative apparatus according to claim 89.

[Claim 133] It is the data regenerative apparatus characterized by making playback improper when said user identification information is not able to detect said control means from the information from said record medium in a data regenerative apparatus according to claim 89.

[Claim 134] It is the data regenerative apparatus characterized by controlling to process according to the playback conditions extracted from the information from

said record medium when said user identification information by which said control means was detected from the information from said record medium in the data regenerative apparatus according to claim 89, and said user identification information acquired from other than said record medium are not in agreement.

[Claim 135] It is the data regenerative apparatus characterized by controlling to reproduce with a limit when said user identification information by which said control means was detected from the information from said record medium in the data regenerative apparatus according to claim 89, and said user identification information acquired from other than said record medium are not in agreement.

[Claim 136] It is the data regenerative apparatus characterized by controlling to permit only the playback accompanied by accounting when said user identification information by which said control means was detected from the information from said record medium in the data regenerative apparatus according to claim 89, and said user identification information acquired from other than said record medium are not in agreement.

[Claim 137] It is the data regenerative apparatus characterized by making playback improper when said user identification information by which said control means was detected from the information from said record medium in the data regenerative apparatus according to claim 89, and said user identification information acquired from other than said record medium are not in agreement.

[Claim 138] The record medium characterized by recording the user identification information for specifying a user with record data.

[Claim 139] Said user identification information is a record medium according to claim 138 characterized by being embedded into said record data.

[Claim 140] Said record data are a record medium according to claim 138 characterized by making and recording the encryption processing related with said user identification information.

[Claim 141] Said user identification information is a record medium according to claim 138 characterized by being biological information, such as a fingerprint, a voiceprint, and a pulse.

[Claim 142] Transmission data with which it comes to contain the user identification information for specifying a user in the data which need copyright management.

[Claim 143] Said user identification information is transmission data according to claim 142 characterized by being embedded into said data.

[Claim 144] Said data are transmission data according to claim 142 characterized by making the encryption processing related with said user identification information.

[Claim 145] The data transmission approach which transmits the transmission data containing the user identification information for specifying a user, detects said user identification information from said transmission data, compares said the detected user identification information with said user identification information acquired from other than said transmission data at the time of reception of said transmission data, and is characterized by making said transmission data available when in agreement.

[Claim 146] Said user identification information is the data transmission approach according to claim 145 characterized by being embedded into said transmission data.

[Claim 147] Said transmission data are the data transmission approach according to claim 145 characterized by enabling said encryption discharge when it is enciphered and said user identification information and said user identification information acquired from other than said transmission data are in agreement.

[Claim 148] Said transmission data encryption is the data transmission approach according to claim 147 characterized by being related with said user identification information.

[Claim 149] Said user identification information is the data transmission approach according to claim 145 characterized by being biological information, such as a fingerprint, a voiceprint, and a pulse.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the approach and equipment which record data, such as the contents data which need copyright management, for example, audio information, image information, a game program and data, and a computer program, and are reproduced.

[0002]

[Description of the Prior Art] The literary piracy by the unjust duplicate (copy) about this digital content poses a problem with the spread of digital contents. That is, since audio data and image data are recorded in analog in the case of the analog recording to a tape medium etc., if it reproduces, quality will deteriorate. On the other hand, in the device which records audio data and image data in digital one, and is reproduced, it is even possible without degradation of quality for information quality not to deteriorate by the duplicate theoretically and to repeat a duplicate many times.

[0003] Therefore, the damage by the illegal copy by the device which processes in digital one will become still bigger than the case of an analog, and the illegal copy prevention in the device which processes in digital one is very important.

[0004] Then, in order to cope with this problem, the information for duplicate control is added to a digital content, and preventing an unjust duplicate is performed using this additional information.

[0005] For example, as control for prevention of this duplicate, about audio contents, once, although a duplicate is accepted, the protection-of-copyrights measure by the duplicate control system of the generation limit called SCMS (Serial Copy Management System) which forbids the duplicate from what was reproduced once is used in CD (compact disk), MD (mini disc (trademark)), DAT (digital audio tape), etc.

[0006] The duplicate control system of this SCMS method is explained with reference to drawing 13 .

[0007] For example, the digital storage of the audio signal of the original source is carried out to the disk 1. The digital audio signal is recorded on the disk 1 in the predetermined record format, and the additional information which shows 1-time duplicate **** by the SCMS method is recorded on the specific area for example, in a digital signal.

[0008] A regenerative apparatus 2 reproduces a digital audio signal from the signal read from the disk 1, and transmits it to a recording device 3 with the aforementioned additional information. In a regenerative apparatus 2, a digital audio signal is transmitted to a recording device 3, applying a part for time amount usually equal to reproduction speed (one X).

[0009] It is recognized as the duplicate of an input digital signal being possible for it, when a 1-time duplicate of the additional information of a digital audio signal is possible for the recording apparatus 3 which received this digital audio signal. A recording apparatus 3 will carry out duplicate record of the digital signal at the recordable disk 4, if additional information checks once that a duplicate is possible. In that case, a recording device 3 rewrites additional information in the condition of "a ban on a duplicate" from the condition "a 1-time duplicate is possible." Therefore, while duplicate record is performed for a digital signal, the information on "a ban on a duplicate" is recorded on a disk 4 as the additional information.

[0010] When it is reproduced with a regenerative apparatus 5 and the disk 4 (disk of the 1st generation) with which this 1st duplicate record was performed is supplied to a recording device 6, since it detects that additional information serves as "a ban on a duplicate", with a recording device 6, record on the recordable disk 7 becomes impossible.

[0011] The duplicate rate at this time turns into a rate equal to the Normal reproduction speed, when becoming equal to the transmission speed of the audio signal from a regenerative apparatus 2 and reproducing an audio signal by standard playback time amount.

[0012] Here, in the case of an audio signal, standard playback time amount is real-time reproduction speed, and is reproduction speed in case human being usually perceives. For example, in the case of data, standard reproduction speed is determined by each playback device, and is not concerned with human being's consciousness.

[0013] Although the 1st-generation duplicate grants a permission with a recording device by the SCMS method as mentioned above, the duplicate of the second generation from the medium of the 1st generation is controlled to be unable to do, and is performing protection of copyrights.

[0014]

[Problem(s) to be Solved by the Invention] By forbidding the duplicate of the second generation, the original meaning of a SCMS method is to prevent that a lot of reproduction as work will be performed, and does not deny the concept about current and the accepted copyright "the duplicate in within the limits for individual treatment is free."

[0015] By the way, like MD (mini disc (trademark)) player and a card mold memory player, various things have appeared as record playback media, and as playback media, a user also uses MD or uses card mold memory by the temper of the day recently.

Although reproduction comes to be frequently performed in such the present condition, in spite of being a duplicate in within the limits for individual treatment, inconvenience will be caused by the SCMS method which can always reproduce only from original media.

[0016] Moreover, the latest personal computer is equipped with the function of a CD player, stores music information on CD in a hard disk (duplicate), and can reproduce it now. Although the duplicate to card mold memory has a convenient duplicate from the hard disk of a personal computer since the duplicate rate is quick, strictly, the duplicate from a hard disk becomes the second generation, and the duplicate will be made.

[0017] It aims at offering the approach and equipment which can prevent effectively the unjust duplicate which freed the duplicate in the range for individual treatment, and was made into work, without this invention adopting a SCMS method in view of the above point.

[0018]

[Means for Solving the Problem] In order to solve the above-mentioned technical problem, the data-logging playback approach by invention of claim 1 The user identification information for specifying a user at the time of record of record data is recorded on a record medium with said record data. At the time of playback of said record data When said user identification information detected from the information from said record medium and said user identification information acquired from other than said record medium are in agreement, it is characterized by permitting playback of said record data.

[0019] According to invention of above-mentioned claim 1, user identification information is recorded on the record medium with record data. And at the time of playback, when the user identification information detected from the information from a record medium is compared with said user identification information acquired from other than the record medium and is in agreement, it is recognized noting that the user of the regenerative apparatus owns the record data, and is made refreshable.

[0020] Therefore, since the user identification information detected from the information from the record medium created by the duplicate and the user identification information of the user of a regenerative apparatus become an inequality at the time of playback when reproduction unjust as work is performed while the duplicate in within the limits for individual treatment becomes free, playback becomes impossible and the unjust duplicate as work can be prevented substantially.

[0021] Moreover, in the data-logging playback approach according to claim 1, at the

time of record of said record data, invention of claim 5 is characterized by making record of said record data improper, when said user identification information is supplied to said recording device and said user identification information offer equipment is not connected to said recording device from the user identification information offer equipment of another object with a recording device.

[0022] Since according to invention of this claim 5 it is made to be not possible [record] when user identification information offer equipment is not connected to the recording device, at the time of record, user identification information is surely recorded on a record medium with record data. Therefore, it can limit to the duplicate within the limits for individual treatment conjointly with the playback control using the user identification information at the time of playback.

[0023] Furthermore, it is characterized by invention of claim 6 making said user identification information which prepared the nonvolatile memory said user identification information was beforehand remembered to be in the data-logging playback approach according to claim 5, and was read from said nonvolatile memory said user identification information acquired from other than said record medium.

[0024] By the playback side, it can compare with the user identification information from a record medium using the user identification information beforehand registered into nonvolatile memory instead of according to invention of this claim 6, user identification information being certainly recorded on a record medium with record data by the requirements for claim 5 at the time of record, and a limit of a user being strictly performed by them. Therefore, at the time of playback, even if a user does not connect user identification information offer equipment like [at the time of record] to a regenerative apparatus, he can get a playback output, and user-friendliness becomes good.

[0025]

[Embodiment of the Invention] The case where record an audio signal on a disk record medium, and the gestalt of operation of data logging and the playback approach by this invention, and equipment is reproduced is hereafter taken for an example, and it explains, referring to drawing.

[0026] Drawing 1 is the block diagram of a record regeneration system using the gestalt of operation of the 1st of the data-logging regenerative apparatus by this invention.

[0027] In the system of the gestalt of this 1st operation, as shown in drawing 1 , it consists of a data-logging regenerative apparatus 10 of the gestalt of operation, and user identification information offer equipment 20. User identification information offer

equipment is called a user ID module in the following explanation. In the gestalt of this operation, the terminal for connecting the user ID module 20 is surely attached to the data-logging regenerative apparatus 10. All the information exchanged between the data-logging regenerative apparatus 10 and the user ID module 20 is enciphered through this terminal.

[0028] The data-logging regenerative apparatus 10 is equipped with the signal-processing section 11 for record playback (a record reconditioned-engine chip is called hereafter), the record / regenerative-apparatus section 12, the system control section 13, nonvolatile memory 14, the input control unit 15, and the display 16. Functionally, the record reconditioned-engine chip 11 is equipped with record encoding / playback decoding section 111, the cipher-processing section 112 for communicating by establishing the communication bus accompanied by encryption between the user ID modules 20, and a control section 113, and is constituted.

[0029] And record encoding / playback decoding section 111 of the record reconditioned-engine chip 11 Control of the system control section 13 is received. At the time of record Record encoding processing is carried out like the after-mentioned, and the analog audio signal or digital audio signal inputted is outputted to record / regenerative-apparatus section 12. On the other hand, at the time of playback Playback decoding of the playback data from record / regenerative-apparatus section 12 is carried out like the after-mentioned, and it outputs as an analog audio signal or a digital audio signal.

[0030] Moreover, the encryption processing section 112 of the record reconditioned-engine chip 11 is connected through a cable 40 in this example to the user ID module 20. In this case, the encryption processing section 112 establishes a channel between the user ID modules 20, when it has the authentication function to perform authentication between the user ID modules 20, under control of the system control section 13 and authentication is able to be taken. In this case, since the data which transmit the established channel are enciphered, before communicating, the cryptographic key for that encryption and code discharge is transmitted.

[0031] Moreover, the user identification information to the nonvolatile memory 14 connected to this control section 113 writes in the control section 113 of the record reconditioned-engine chip 11, and it controls read-out while it carries out motion control of record encoding / playback decoding section 111 and the cipher-processing section 112 according to the control signal from the system control section 13.

[0032] Record / regenerative-apparatus section 12 supplies the data which recorded

the record signal from the record reconditioned-engine chip 11 on the disk 30, and read it from the disk 30 to the record reconditioned-engine chip 11 in response to control by the system control section 13.

[0033] The system control section 13 performs control according to the input directions of a user which led the input control unit 15, and sends the required data for a display to a display 16, and displays them on the screen. A liquid crystal display etc. is used as a display device of a display 16.

[0034] The user ID module 20 is attached to one data-logging regenerative apparatus [one] 10, and supplies user identification information (henceforth user ID) to the data-logging regenerative apparatus 10. The user ID module 20 is equipped with cipher processing and a control section (a secure chip is called hereafter) 21, nonvolatile memory 22, the input control unit 23, and a display 24, and is constituted.

[0035] When the secure chip 21 is equipped with the function to perform authentication between the record reconditioned-engine chips 11 and authentication is able to be taken, a channel is established between the record reconditioned-engine chips 11. In this case, since the data which transmit a channel are enciphered, before communicating, the cryptographic key for encryption and code discharge is transmitted.

[0036] At nonvolatile memory 22, the module identification information of a proper (Module ID is called hereafter), for example, the numeric value of a proper, is beforehand written in each user ID module 20 at the time of factory shipments.

[0037] And a user inputs and registers a "user name" into the user ID module 20 attached to it, checking on the screen of a display 24 through the input control unit 23, when the data-logging regenerative apparatus 10 is purchased.

[0038] [Registration of user name to user ID module 20] drawing 2 is a flow chart which shows the procedure for registration of the "user name" to this user ID module 20.

[0039] First, a screen for a "user name" to input is displayed on a display 24, and, as for the user ID module 20, the input of the "user name" to the user ID module 20 is demanded from a user (step S1). If a user inputs a user name in response, the user ID module 20 stores the inputted "user name" in nonvolatile memory 22, after checking the completion of an input of the user name (step S2). The secure chip 21 performs the above processing.

[0040] In addition, when confirmation operation of the registration user name which led the input control unit 23 is performed, the user name which was inputted as mentioned above and registered is read from nonvolatile memory 22, and it is

displayed on the screen of a display 24 and it enables it to check it.

[0041] In this way, the inputted "user name" and when the "module ID" memorized beforehand is matched with nonvolatile memory 22 by 1 to 1, Module ID will have the semantics as user ID substantially. That is, user ID has two kinds, the case where the concept containing both Module ID and a user name is meant, and when the concept which consists of a module ID is meant, of cases in this specification.

[0042] As it is beyond [registration of the user ID to a data-logging regenerative apparatus], after a user name is registered into the user ID module 20, a user needs to connect the user ID module 20 to the data-logging regenerative apparatus 10, and needs to perform user ID registration to the data-logging regenerative apparatus 10.

[0043] Drawing 3 and drawing 4 are flow charts which show the procedure which registers user ID into the data-logging regenerative apparatus 10 using the user ID module 20. Drawing 3 is processing by the side of the user ID module 20 at this time, and drawing 4 is processing by the side of the data-logging regenerative apparatus 10.

[0044] By the <processing actuation by the side of user ID module 20> user ID module 20, as shown in drawing 3 , it distinguishes first whether it connected with the data-logging regenerative apparatus 10 (step S11). When it did not connect and is distinguished, it reports to a user that the data-logging regenerative apparatus 10 is not connected, and connection is urged (step S12).

[0045] and when it is detected that the user ID module 20 is connected to the data-logging regenerative apparatus 10 A cryptographic key is transmitted, while being with the record reconditioned-engine chip 11 of the data-logging regenerative apparatus 10 and carrying out the authentication check of it, when it detects that waiting (step S13) and registration directions were received in "registration directions" which led the input control unit 23 by the user (step S14).

[0046] And an authentication check can be taken and it distinguishes whether the channel was establishable (step S15), and when a channel is not able to be established without authentication being impossible, an error message is carried out to a display 24 (step S17), and this manipulation routine is ended. Moreover, when a channel is establishable, Module ID and a user name are read from nonvolatile memory 22, and it enciphers, and transmits with a registration instruction to the data-logging regenerative apparatus 10 (step S16).

[0047] A cryptographic key is transmitted, while being with the user ID module 20 and the record reconditioned-engine chip 11 will carry out the authentication check of the user ID module 20 being connected first, if it distinguishes waiting and having connected (step S21) as shown in the <processing actuation by the side of

data-logging regenerative apparatus 10> one side, and data-logging regenerative-apparatus 10 side at <u>drawing 4</u> (step S22).

[0048] And an authentication check can be taken and it distinguishes whether the channel was establishable (step S23), and when a channel is not able to be established without authentication being impossible, an error message is carried out to a display 16 (step S26), and this manipulation routine is ended.

[0049] Moreover, when a channel is establishable, the module ID with which the record reconditioned-engine chip 11 received reception of the registration instruction containing "Module ID" and the "user name" from the user ID module 20 to nonvolatile memory 14 when checking waiting (step S24) and reception, and a user name are stored, and owner registration is carried out (step S25).

[0050] In addition, when confirmation operation of the registration user name which led the input control unit 15 is performed, the user name which was inputted as mentioned above and registered is read from nonvolatile memory 14, and it is displayed on the screen of a display 16 and it enables it to check it.

[0051] Moreover, even if the user ID of the data-logging regenerative apparatus 10 is once registered, it can be reset as another user ID by re-registering using the user ID module 20.

[0052] [Sound recording processing actuation with the data-logging regenerative apparatus 10], next sound recording processing actuation with the data-logging regenerative apparatus 10 are explained referring to the flow chart of <u>drawing 5</u> and <u>drawing 6</u> .

[0053] In the gestalt of this operation, in case it records, it is necessary to connect the user ID module 20 to the data-logging regenerative apparatus 10. That is, the data-logging regenerative apparatus 10 distinguishes first whether the user ID module 20 is connected (step S31). When it did not connect and is distinguished, it reports to a user that the user ID module 20 is not connected, and connection is urged (step S32). For example, since "user ID module is not connected, record is impossible. Please connect a user ID module. The message " is displayed on a display 16, or it is made to carry out sound emission as a message with voice.

[0054] and when it is detected that the user ID module 20 is connected to the data-logging regenerative apparatus 10 When it detects that waiting (step S33) and "sound recording directions" were received in "sound recording directions" which led the input control unit 15 by the user The system control section 13 of the data-logging regenerative apparatus 10 publishes a sound recording instruction in the record reconditioned-engine chip 11, or the record / regenerative-apparatus section

12, and is taken as a sound recording initiation preparatory state (step S34).

[0055] next, the record reconditioned-engine chip 11 -- between the secure chips 21 of the user ID module 20 -- a cryptographic key is transmitted while carrying out an authentication check (step S35). And an authentication check can be taken and it distinguishes whether the channel was establishable (step S36), and when a channel is not able to be established without authentication being impossible, sound recording actuation is stopped (step S37), an error message is carried out to a display 24 after that (step S38), and this manipulation routine is ended.

[0056] Moreover, when it distinguishes that the channel was establishable, the record reconditioned-engine chip 11 advances the Request to Send of Module ID and a user name to the case of user ID, i.e., this example, by step S36 to the user ID module 20 (step S39).

[0057] To this Request to Send, the secure chip 21 of the user ID module 20 reads Module ID and a user name from nonvolatile memory 22, enciphers, and is transmitted to the data-logging regenerative apparatus 10. The record reconditioned-engine chip 11 of the data-logging regenerative apparatus 10 checks reception of this module ID and a user name (step S40).

[0058] Next, it distinguishes whether the module ID currently embedded into audio data was detected (step S41), and Module ID has been detected (step S42). And when Module ID is able to be detected, comparison collating of the detected module ID and the module ID acquired from the user ID module 20 is carried out (step S43).

[0059] It distinguishes whether both the modules ID were in agreement as a result of the comparison collating (step S44), and when in agreement, it becomes record authorization, and input audio data are compressed, user ID which received was made into the cryptographic key, and encryption processing is carried out (step S45).

[0060] In this case, when using only a user name and using Module ID as a cryptographic key, you may be any in the case of using both user name and module ID.

[0061] And "Module ID" is embedded into this audio data that compressed and processed [encryption] with the "user name" acquired from the user ID module 20 (step S46). In this case, Module ID is enciphered and embedded. It is for raising the secrecy nature of user ID. At step S46, the record Ruhr and the playback Ruhr which are mentioned later are further embedded to the audio data for record.

[0062] It enciphers as mentioned above and the audio data which embedded user ID etc. are recorded on the disk 30 as a record medium (step S47).

[0063] On the other hand, when Module ID is undetectable at step S42, and when the module ID from Module ID and the user ID module 20 detected from audio data at step

S44 is inharmonious, the record conditions (record Ruhr) currently embedded into audio data are detected (step S48), and processing according to the detected record Ruhr is performed (step S49).

[0064] As embedding processing of the information on this record Ruhr, the processing currently called digital-watermarking processing and other embedding processings can be used. Moreover, it does not embed into audio data but you may make it record on record area different from audio data, such as TOC (Table Of Contents), the area of a sub-code, etc.

[0065] As the record Ruhr embedded at this time, it is R** "record (duplicate) is possible without a charge", for example.

It is R** "record (duplicate) is a charge."

It is R** "record (duplicate) is free."

It is R** "record (duplicate) is impossible."

** -- one is chosen and recorded. As recording information of the record Ruhr, although the contents of the record Ruhr itself may be recorded, that information which is any of above-mentioned R** - R** is also recordable.

[0066] Here, the above-mentioned R** "record (duplicate) is possible without a charge" embeds user ID to audio data, and performs record. In this example, since this is recorded without embedding user ID as having no owner at record media, such as a disk of a read-only format (henceforth a ROM type) made by the music company etc. with authoring equipment, it serves as processing at the time of record (duplicate) of the audio data from this ROM type of record medium.

[0067] Moreover, in the recording device in which accounting is possible, the above-mentioned R** "record (duplicate) is a charge" permits record, when accounting is able to be performed. Record is made improper when accounting is the recording device of impossible. In addition, about the example of accounting, it mentions later.

[0068] Moreover, the above-mentioned R** "record (duplicate) is free" is processing which records, without recording user ID on audio data (duplicate). Furthermore, R** "record (duplicate) is impossible" completely means that record (duplicate) is improper.

[0069] In addition, as mentioned above, although the record Ruhr is applied not only when user ID is an inequality, but when it is not able to detect user ID from the audio data for record, it may record the different record Ruhr by the case where user ID is an inequality, and the case where effective user ID is not obtained.

[0070] Moreover, at the time of playback, when collating with the user ID embedded

into audio data and the user ID stored in nonvolatile memory 14 is performed and both are in agreement, with the gestalt of this operation, it becomes reproducible [that audio data], so that it may mention later. And in the gestalt of this operation, when user ID is undetectable from audio data at the time of playback, when user ID is inharmonious, the playback Ruhr (playback conditions) of how to process is also embedded into audio data at step S46 as a result of collating in the time of playback.

[0071] As embedding processing of the information on this playback Ruhr, the processing currently called digital-watermarking processing and embedding processing of other common knowledge can be used like the record Ruhr. Moreover, it does not embed into audio data but you may make it record on record area different from audio data, such as TOC (TableOf Contents), the area of a sub-code, etc.

[0072] as the playback Ruhr in case user ID is an inequality at the time of this playback -- PB** -- "-- free refreshable"

PB** "the prohibition of playback (playback is impossible)"

It is PB** "playback is a charge."

PB** "refreshable with a limit"

** -- one is chosen and recorded. As recording information of the playback Ruhr, although the contents of the playback Ruhr itself may be recorded, that information which is any of above-mentioned PB** – PB** is also recordable.

[0073] here -- the above-mentioned PB** -- "-- in free refreshable", it becomes possible [refreshable] related always at the user ID registered into the regenerative apparatus, and, in PB** "the prohibition of playback (playback is impossible)", playback is always forbidden regardless of the user ID registered into the regenerative apparatus. As mentioned above, since it records on record media, such as a disk of the ROM type made by the music company etc. with authoring equipment, without embedding user ID, when effective user ID is not obtained from playback audio data, the Ruhr of the above-mentioned PB** is recorded [******] in this example.

[0074] Moreover, in the above-mentioned PB** "playback is a charge", in the regenerative apparatus in which accounting is possible, when accounting is able to be performed, playback is permitted. Playback is made improper when accounting is the regenerative apparatus of impossible. In addition, about the example of accounting, it mentions later.

[0075] Moreover, the above-mentioned PB** "refreshable with a limit" permits all or a part of audition modes, and makes after the audition mode the Ruhr of the above-mentioned PB** or PB**. Here, audition mode free refreshable c Touches by free refreshable b m seconds an time, for example, 1 time, and only a part and a rust

part mean free playback ****.

[0076] this PB** -- "-- in adopting said a and b in the playback Ruhr of refreshable-with limit", a regenerative apparatus is made to correspond to content ID (identification code), such as ISRC (International Standard Recording Code), and records the number of audition seconds, the information of an audition, for example, the count, of audition hysteresis of the audio data identified by that content ID, etc.

[0077] With the gestalt of this operation, not only when user ID is an inequality, but when effective user ID is not obtained from playback audio data, this playback Ruhr is applied in common at the time of playback, so that the below-mentioned regeneration may explain. However, you may make it record the different playback Ruhr by the case where user ID is an inequality, and the case where effective user ID is not obtained.

[0078] For example, also in the case of an inequality [the user ID of self equipment, and], when specific ID, such as "ORIGINAL", is recorded also on record media, such as a disk of the ROM type made by the music company etc. with authoring equipment, as user ID, the regenerative apparatus should carry out playback authorization, when the specific ID is detected. Therefore, when the playback Ruhr shall be embedded, the playback Ruhr is made "refreshable."

[0079] On the other hand, in this way, specific user ID is embedded to the record data of record media, such as a ROM type disk, and when it is determined that it is recorded along with said record data and effective user ID is not obtained in a regenerative apparatus, it can be supposed that the audio data is recorded unjustly. Therefore, the playback Ruhr at that time is good to suppose that playback is impossible.

[0080] However, when it is determined that user ID is not recorded, it can use for record media, such as a disk of the ROM type made by the music company etc. with authoring equipment, in common [one] of the above playback Ruhr.

[0081] The processing actuation in the case of reproducing [regeneration actuation with the data-logging regenerative apparatus 10], next the audio data recorded as mentioned above with the data-logging regenerative apparatus 10 is explained referring to the flow chart of drawing 7 and drawing 8 .

[0082] First, if it distinguishes waiting and having been loaded for being loaded with a disk [finishing / record] (step S51), the record reconditioned-engine chip 11 will wait for the playback directions from a user. And a check of the playback directions from a user reads audio data with playback directions from a disk (step S53). (step S52)

[0083] And the user ID currently embedded to the read audio data is detected. And the code of the module ID enciphered is canceled and detected in this example of the

user ID (step S54). And it distinguishes whether Module ID was detectable (step S55), and when undetectable, the playback Ruhr currently embedded to playback audio data is detected (step S73), and processing according to the detected playback Ruhr is performed (step S74).

[0084] Moreover, when it is distinguished at step S55 that Module ID was detectable, comparison collating of the detected module ID and the module ID memorized by nonvolatile memory 14 is carried out (step S56).

[0085] And it distinguishes whether both are in agreement (step S57), and when in agreement, the code of the audio data with which user ID is used and enciphered is solved (step S58), and compression of audio data is thawed (step S59). And audio data are decoded and a playback output is carried out (step S60).

[0086] The module ID detected at step S57 on the other hand from the data read from the disk 30 When it is distinguished that the module ID read from nonvolatile memory 14 is inharmonious If it is not a setup to which it distinguishes whether it is a setup to which the user ID module 20 is connected to a user, and a user ID module is connected to him The playback Ruhr currently embedded to playback audio data is detected (step S73), and processing according to the detected playback Ruhr is performed (step S74). In this example, it becomes prohibition of playback, for example.

[0087] It is also included in prohibition of the playback in this case that a normal playback output is not performed. That is, it replaces with a playback output besides in case a noise is outputted as a playback output, and you may make it send out the message of the purport which "is playback from the record medium reproduced illegally" as an audio output.

[0088] When it was a setup which connects a user ID module to a user at step S61 and is distinguished, the data-logging regenerative apparatus 10 distinguishes whether the user ID module 20 is connected (step S62). When it did not connect and is distinguished, it reports to a user that the user ID module 20 is not connected, and connection is urged (step S63).

[0089] and -- the time of it being detected that the user ID module 20 is connected to the data-logging regenerative apparatus 10 -- the record reconditioned-engine chip 11 -- between the user ID modules 20 -- a cryptographic key is transmitted while carrying out an authentication check (step S64). And an authentication check can be taken and it distinguishes whether the channel was establishable (step S65), and when a channel is not able to be established without authentication being impossible, processing according to the playback Ruhr embedded to audio data is performed (step S73, step S74). In this example, it becomes prohibition of playback as mentioned

above.

[0090] Moreover, when it distinguishes that the channel was establishable, in the case of [of the user ID] this example, the record reconditioned-engine chip 11 advances the Request to Send of Module ID by step S65 to the user ID module 20 (step S66).

[0091] To this Request to Send, the secure chip 21 of the user ID module 20 reads Module ID from nonvolatile memory 22, enciphers, and is transmitted to the data-logging regenerative apparatus 10. The record reconditioned-engine chip 11 of the data-logging regenerative apparatus 10 will carry out comparison collating of the module ID of which it received with the module ID detected from the data read from the disk 30, and the code was canceled, if reception of this module ID is checked (step S67) (step S68).

[0092] And it distinguishes whether both are in agreement (step S69), and when both are inharmonious, processing according to the playback Ruhr embedded to audio data is performed (step S73, step S74). As mentioned above, in this example, it becomes prohibition of playback.

[0093] Moreover, when both are in agreement, the code of the audio data with which user ID is used and enciphered is solved (step S70), and compression of audio data is thawed (step S71). And audio data are decoded and a playback output is carried out (step S72).

[0094] It sets in the gestalt of this operation as mentioned above. At the time of record, the registered user ID is embedded and recorded on record data. At the time of playback When the user ID registered into nonvolatile memory 14 is compared with the user ID detected from the data read from the disk 30 and both are in agreement, only within an individual use gestalt, reproduction can be made possible by having been made to perform a normal playback output.

[0095] Moreover, in the gestalt of above-mentioned operation, since it prevented from performing record at the time of record when it was not in the condition which connected the user ID module 20 to the data-logging regenerative apparatus 10, the limit in within the limits for a user's individual treatment can be carried out also at this point.

[0096] And with the gestalt of this operation, it sets to a playback side instead of adding the above limits to a record side. Compare the user ID registered into nonvolatile memory 14 with the user ID detected from the data read from the disk 30, and he is trying to distinguish whether both are in agreement. Like [at the time of record] It is not necessary to connect the user ID module 20, and is effective in the user-friendliness of the user at the time of playback becoming good.

[0097] For example, the right information [finishing / acquisition] of listening (for example, all information on the contents which the individual has) is recorded on the IC card only for itself in the individual as an approach of embodying "a copy is free in the range for individual treatment", and in case contents are reproduced, how to surely insert the IC card in a regenerative apparatus can be considered. In this case, in order to maintain an IC card at the condition that others cannot use, it is managed so that it may have one-person the IC card of one sheet.

[0098] Although a problem will be lost even if it completely frees the duplicate of contents since an IC card has all the individual's right information of listening if it does in this way instead, a user has a problem of having to stop having to walk around with the IC card inserted in a regenerative apparatus.

[0099] However, in the case of the gestalt of above-mentioned operation, since a thing like the IC card becomes unnecessary at a regenerative apparatus, it is very convenient.

[0100] Moreover, with the gestalt of above-mentioned operation, since record data give the code which made user ID the cryptographic key and he is trying to record it, only when user ID is in agreement, it becomes impossible to cancel a record data encryption, and they can ensure the limit in within the limits for individual treatment at the time of playback.

[0101] In addition, user ID is not made into the cryptographic key itself, but like the information for acquiring the key of a record data encryption, even if it uses as information relevant to encryption, it can be expected that the same effectiveness is acquired.

[0102] Moreover, with the gestalt of above-mentioned operation, encipher, and he is trying to send the information on the user ID from the user ID module 20 to the data-logging regenerative apparatus 10, and, for this reason, it is effective in the ability to raise the secrecy nature of user ID.

[0103] In addition, in above-mentioned explanation, since the record Ruhr and the playback Ruhr were embedded to audio data, although the information on the record Ruhr and the playback Ruhr is detected from audio data, when the information on the record Ruhr and the playback Ruhr is recorded on TOC etc., it should just acquire the information on the record Ruhr and the playback Ruhr in advance of the audio data for record.

[0104] Moreover, when audio data are compressed and blocked, the information on the record Ruhr and the playback Ruhr can be embedded in the clearance between blocks. In that case, the information on the record Ruhr and the playback Ruhr can be

extracted at the time of compression decoding.

[0105] Moreover, when coincidence enables it to be loaded with two or more record media so that the data-logging regenerative apparatus 10 may be made as for playback and record to coincidence and duplicate record can be performed, the information on the record Ruhr from the disk by the side of playback or the playback Ruhr can be beforehand acquired from TOC or playback data.

[0106] If the record Ruhr and the playback Ruhr in case user ID is an inequality are beforehand set to one of the above-mentioned Ruhr as a system when user ID is not obtained and, it will become unnecessary in addition, to record the record Ruhr and the playback Ruhr into audio data, although the gestalt of the above operation explained that the record Ruhr and the playback Ruhr were surely recorded into audio data.

[0107] [the gestalt of the 2nd operation] -- the gestalt of this 2nd operation is an example in case a data-logging regenerative apparatus is carried in a personal computer. Drawing 8 is the block diagram of the system in the case of the gestalt of this 2nd operation.

[0108] The system of the gestalt of this 2nd operation is constituted by a personal computer 50 and the user ID module 20 which was used in the case of the gestalt of the 1st operation of the above-mentioned.

[0109] The personal computer 50 of the gestalt of this operation is equipped with the terminal for connecting the user ID module 20. And all the information exchanged between the user ID modules 20 is enciphered through this terminal.

[0110] While a personal computer 50 is equipped with the record reconditioned engine 51, the record / regenerative-apparatus section 52, and nonvolatile memory 54 like the data-logging regenerative apparatus 10 of the gestalt of the 1st operation, CPU53, the input control unit 55, a display 56, a network interface 57, and a hard disk drive unit 58 are connected through a system bus 59. Record / regenerative-apparatus section 52 is also connected with the record reconditioned engine 51 at the system bus 59.

[0111] And a network interface 57 is connected to the storage 61 connected to the network 60. Here, a network 60 may be a Local Area Network (LAN), and may be the Internet. In the case of the Internet, let a store 61 be the recording device formed in the predetermined server etc.

[0112] Also in the gestalt of this 2nd operation, completely like the gestalt of the 1st operation of the above-mentioned, input registration of the user name is carried out, registration processing of user ID is performed in a personal computer 50 from the

user ID module 20 to a personal computer 50 after that, and user ID is registered and memorized by nonvolatile memory 54 at the user ID module 20.

[0113] And in the case of the gestalt of this 2nd operation, as an archive medium, not only the disk 30 in the case of the gestalt of the 1st operation but the storage 16 connected to the hard disk drive unit 58 or the network 60 is used.

[0114] Namely, the input source in the record in the case of the gestalt of this 2nd operation, If combination with a record medium (archive medium) is shown ** An analog input Or a digital input -> A disk 30** analog input Or a digital input -> Digital input -> store 61** disk 30 -> hard disk drive unit 58** disk 30 -> a hard disk drive unit 58** analog input or a store 6 There is a 1** hard disk drive unit 58 -> disk 30** hard disk drive unit 58 -> store 61** store 61 -> disk 30** store 61 -> hard disk drive unit 58 etc.

[0115] The processing which transmits to other storage and is written in it from one storage on a network 60 also at everything [this] but nine kinds is also considered to be one of the record processings. While being contingent [on the user ID module 20 being connected like the gestalt of the 1st operation of the above-mentioned with the gestalt of this 2nd operation at the time of the above record / which], the user name and Module ID which were acquired from that user ID module 20 are embedded to record data, and are recorded. In this case, like the gestalt of the 1st operation, it enciphers and Module ID is recorded.

[0116] In this case, in record, without passing through record / regenerative-apparatus section 52, the data to a hard disk drive unit 58 by which record encoding was carried out with the record reconditioned-engine chip 11 are sent to a hard disk drive unit 58 through a system bus 59, and are stored in a hard disk.

[0117] Moreover, the data to a store 61 by which record encoding was carried out with the record reconditioned-engine chip 11 are sent out to a network 60 to a store 61 through a system bus 59 and a network interface 57, without passing through record / regenerative-apparatus section 52, and it is made to be stored at a store 61 in record.

[0118] And when collating with the gestalt of the 1st operation of the above-mentioned, the user ID detected out of playback data completely similarly, and the user ID memorized by nonvolatile memory 54 is performed at the time of playback of one audio data of a disk 30, a hard disk drive unit 58, and a store 62 and both are in agreement, it is made to enable the playback output of audio data.

[0119] While the same effectiveness as the gestalt of the 1st operation which was mentioned above also in the case of the gestalt of this 2nd operation is acquired, the

high-speed duplicate using a hard disk drive unit 58 holds the limit of within the limits for a user's individual treatment, and becomes possible. Moreover, although the data transfer to the store which led can also make a network one record (duplicate) mode, it also holds the limit of within the limits for a user's individual treatment, and becomes possible.

[0120] On condition that accounting, when [the example of accounting] next the record Ruhr, and the playback Ruhr carry out, the gestalt of operation is explained. Drawing 10 shows an example of the accounting system of this example, and is omitted about distribution of a music content, and transfer of the data of a music content. The data-logging regenerative apparatus 10 of the gestalt of this operation is constituted so that duplicate record can be performed. That is, it is supposed that it is possible to record the data from a certain disk on another disk.

[0121] In the case of the gestalt of this operation, on the occasion of record, the right data of listening are used for right-of-reproduction-copyright data on the occasion of playback, respectively for accounting. These right-of-reproduction-copyright data and the right data of listening are stored in the memory of an IC card and the secure decoder 17 prepared in the data-logging regenerative apparatus 10.

[0122] Right-of-reproduction-copyright data and the right data of listening are the frequencies and the refreshable frequencies which can be reproduced, and each frequency is subtracted whenever the data-logging regenerative apparatus 10 records / reproduces the contents for accounting.

[0123] These right-of-reproduction-copyright data and the right data of listening are made possible [rewriting with the right data selling terminal 205 of a duplicate/listening installed in the right data charger of a duplicate/listening or dealer which a user owns under management of the right data control firm of a duplicate/listening]. In this example, the right data charger of a duplicate/listening is formed as a account data charger 25 in the user ID module 20.

[0124] The account data charger 25 exists between the data selling terminals 205 currently installed in the secure decoder 17 of the data-logging regenerative apparatus 10, the settlement-of-accounts pin center,large 203 or the record store, the convenience store, etc., and functions as a right data repeater of listening.

[0125] Moreover, with regards to a music company 201, the copyright control mechanism 202, and the data-logging regenerative apparatus 10 as a user device, the settlement-of-accounts pin center,large 203 exists for a payment. The settlement-of-accounts pin center,large 203 is equipped with authentication/accounting server. The settlement-of-accounts pin center,large 203

settles price between a bank and a credit card company 204.

[0126] In _drawing 10_ , as a broken line shows, the music content is recorded on the media (an optical disk, memory card, etc.) which the record regenerative apparatus 10 distributed from a music company 201 reproduces. In addition to this, various things can be used for the approach of distribution of a music content. Moreover, the record regenerative apparatus 10 records a music content on media (an optical disk, memory card, etc.) 30.

[0127] The secure decoder 17 and the account data charger 25 in the data-logging regenerative apparatus 10 communicate through the channel of a cable in this example, and the right data of a duplicate/listening are transmitted from the account data charger 25 to the memory in the secure decoder 17. The right data of a duplicate/listening support the recordable (duplicate) count, time amount / count information of refreshable [recordable (duplicate)], or refreshable time amount of the data-logging regenerative apparatus 10.

[0128] Moreover, duplicate/playback hysteresis information on the data-logging regenerative apparatus 10 (duplicate/playback log) is transmitted from the secure decoder 17 of the data-logging regenerative apparatus 10 to the account data charger 25. The identifier of the reproduced data and/or the conditions of a duplicate are included in a duplicate log. Specifically, information, such as an identifier of the reproduced music content, a class, a count of a duplicate, and duplicate time amount, is included.

[0129] A playback log includes the identifier of the decoded digital data, and/or the conditions of decode. Specifically, information, such as an identifier of the heard music content, a class, a count of playback, and playback time amount, is included. In this example, it is charged to decode at the time of playback.

[0130] Moreover, the identifier for specifying accounting candidates, such as an identifier of the owner of a user terminal and the data-logging regenerative apparatus 10 as a user device, is contained in duplicate/playback log. Between the secure decoder 17 and the account data charger 25, if it attests if needed and authentication is materialized using the cipher-processing section 112 and cipher processing which were shown in above-mentioned _drawing 1_ , and a control section 21, transmission of the enciphered right data of a duplicate/listening and duplicate/playback log will be made.

[0131] The right data of a duplicate/listening are passed to the account data charger 25 through a channel 206, for example, the telephone line, from the settlement-of-accounts pin center,large 203. Or the right data of a duplicate/listening

passed to the selling terminal 205 through the channel 207 from the settlement-of-accounts pin center,large 203 are passed to the account data charger 25 through a channel 208. Also in this case, authentication and encryption are made for reservation of security.

[0132] Duplicate/playback log sucked up by the account data charger 25 is sent to the settlement-of-accounts pin center,large 203 through a channel 206. Or the selling terminal 205 is passed through a channel 208. The selling terminal 205 sends a playback log to the settlement-of-accounts pin center,large 203 while receiving the right data of listening from the settlement-of-accounts pin center,large 203 through a channel 207. Furthermore, the price of the right data of listening which came to hand is paid for the settlement-of-accounts pin center,large 203. Channels 207 are the telephone line, the Internet, etc.

[0133] Between the settlement-of-accounts pin center,large 203 and the right data charger 25 of listening, transmission and reception of the right data of a duplicate/listening and duplicate/playback log are made through a channel 206. Also in this case, authentication and encryption are made for reservation of security. The bank and the credit card company 204 exist about settlement of the right data of listening. A bank and a credit card company 204 pull down the amount of money written in the account data charger 25 which carries out the right data equivalent of a duplicate/listening based on a request of the settlement-of-accounts pin center,large 203 from the bank account of the user registered beforehand.

[0134] Furthermore, the settlement-of-accounts pin center,large 203 receives commission of management of the service about the right data of a duplicate/listening from a music company 201. Moreover, the settlement-of-accounts pin center,large 203 offers the technique about the right data of a duplicate/listening to a music company 201, and pays a musical piece listener's fee further. By registering copyright to the copyright control mechanism 202, a music company 201 requests management of copyright and receives a royalty from the copyright control mechanism 202.

[0135] In addition, an IC card can also be used instead of a channel 208. That is, the account data charger 25 and the selling terminal 205 are equipped with the writing / read-out section of an IC card. And when an IC card is inserted in the account data charger 25, the account data charger 25 writes the data of duplicate/playback log in an IC card while sucking up the right data of a duplicate/listening stored in the IC card. If the right data of a duplicate/listening of an IC card are sucked up by the account data charger 25, they will be cleared and will serve as zero.

[0136] Moreover, when an IC card is inserted in the selling terminal 205, and a user

sets up the frequency of the required right data of a duplicate/listening, the set-up right data of a duplicate/listening concerned are written in an IC card. At this time, duplicate/playback log stored in the IC card at coincidence is sucked up by the selling terminal 205, and duplicate/playback log of an IC card is cleared.

[0137] In an accounting system which was explained above, with the gestalt of this operation, when the processing which needs accounting is set up as the record Ruhr or the playback Ruhr, accounting about a duplicate or playback is performed in the secure decoder 17 of the data-logging regenerative apparatus 10.

[0138] Drawing 11 is the flow chart of processing at the step S49 in case the record Ruhr is set up with the record accompanied by accounting in step S48 in the case of duplicate record.

[0139] That is, first, ** of the frequency of the right-of-reproduction-copyright data of the memory of the secure decoder 17 is investigated, and it distinguishes whether accounting is possible (step S81). Record (duplicate) is performed when it is distinguished that accounting is possible (step S82). And a check of that record was completed reduces the frequency of the right-of-reproduction-copyright data of the memory of the secure decoder 17 (step S84). (step S83) And information, such as an identifier of the music content which made the duplicate log, for example, was reproduced, a class, a count of a duplicate, and duplicate time amount, is memorized in the memory (step S85). And accounting is ended.

[0140] On the other hand, there is no ** of the frequency of the right-of-reproduction-copyright data of the memory of the secure decoder 17, when accounting is improper, the message of a purport without ****** of right-of-reproduction-copyright data is sent, and a user is told (step S86). And whether right-of-reproduction-copyright data were added distinguishes (step S87), when added, it progresses to step S82, record is performed, and processing after the above-mentioned step S83 is performed. Moreover, when there is no addition of right-of-reproduction-copyright data, (step S88) and this accounting routine are ended as record being impossible.

[0141] Moreover, drawing 12 is the flow chart of processing at the step S74 in case the playback Ruhr is set up with the playback accompanied by accounting in step S73 in the case of playback.

[0142] That is, first, ** of the frequency of the right data of listening of the memory of the secure decoder 17 is investigated, and it distinguishes whether accounting is possible (step S91). When it is distinguished that accounting is possible, the decode which cancels the code of playback data is performed (step S92). And a check of that

decode was completed reduces the frequency of the right data of listening of the memory of the secure decoder 17 (step S94). (step S93) And information, such as an identifier of the music content which made the playback log, for example, was reproduced, a class, a count of playback, and playback time amount, is memorized in the memory (step S95). And accounting is ended.

[0143] On the other hand, there is no ** of the frequency of the right data of listening of the memory of the secure decoder 17, when accounting is improper, the message of a purport without ****** of the right data of listening is sent, and a user is told (step S96). And whether the right data of listening were added distinguishes (step S97), when added, it progresses to step S92, decode is performed, and processing after the above-mentioned step S93 is performed. Moreover, when there is no addition of the right data of listening, (step S98) and this accounting routine are ended as playback being impossible.

[0144] In addition, at step S98, it may be made to make playback of only the part which touches, or the part of the rust good rather than supposes that playback is completely impossible.

[0145] In the gestalt of the [gestalt of other operations] above-mentioned operation, at the time of playback, even if it did not connect with the data-logging regenerative apparatus or the personal computer, although [a module] it is refreshable, if a user ID module does not connect a user ID module at the time of playback, either, it is good also as structure which cannot be reproduced. That is, connection of a user ID module is made indispensable also at the time of playback, and you may make it collate the user ID from a user ID module, and the user ID detected from playback data, without forming nonvolatile memory 14.

[0146] Moreover, connection of the user ID module to a data-logging regenerative apparatus is checked before ** made to be the same as that of the gestalt of above-mentioned operation as regeneration, for example, playback, and after performing collating with the user ID memorized by nonvolatile memory 14 and the user ID from the user ID module in which a user is shown and checking a user, above-mentioned playback actuation can be performed.

[0147] Moreover, in the case of the gestalt of above-mentioned operation, the authentication check of a user ID module is performed at the time of record, but the check using user ID is omitted. However, when a user ID module is connected to a data-logging regenerative apparatus at the time of record, it may be made to perform the authentication check of the user ID module which used user ID.

[0148] Moreover, although the gestalt of above-mentioned operation is the case of a

record regenerative apparatus, this invention is applicable also to a record dedicated device and a playback dedicated device. In that case, a user ID module should be attached to a record dedicated device with the gestalt of the above-mentioned 1st and the 2nd operation, and the same gestalt. Once it registers user ID into a playback dedicated device at the nonvolatile memory in the case of a playback dedicated device, it is not necessary to connect a user ID module to a regenerative apparatus at the time of playback.

[0149] But, of course, it can also perform applying the gestalt of operation of above-mentioned others also to the gestalt of these operations.

[0150] In addition, the user ID registration in the gestalt of the above-mentioned 1st and the 2nd operation is the user registration to the regenerative-apparatus part of the data-logging regenerative apparatus. With the gestalt of the above-mentioned 1st and the 2nd operation, since a user ID module is surely connected and the user ID is recorded to a recording apparatus, when only a recording apparatus part is considered, it is not necessary to register user ID.

[0151] However, when the function of the recording apparatus parts of a record dedicated device or a record regenerative apparatus is made only into for [of specification] users and user ID is [using the user ID module, user ID is registered, it memorizes to nonvolatile memory and] in agreement on the occasion of record, it can also consider as the structure it is made to become recordable.

[0152] Moreover, although the user name and Module ID were used, you may make it use the biological information of a proper for each people, such as a user's fingerprint and voiceprint, or a pulse, as user ID with the gestalt of above-mentioned operation. In that case, although you may make it collate the user ID of the biological information memorized by nonvolatile memory, and the user ID of the biological information detected from playback data in a regenerative apparatus, the user ID of the biological information detected from playback data and the user ID of the biological information inputted from biological information input means, such as a fingerprint, a voiceprint, or a pulse, can be collated, without preparing nonvolatile memory. In this case, a user ID module can be used for a biological information input means.

[0153] In addition, like the disk of the read-only format offered by the concert company etc., it supposes that the record medium marketed is treated as "original", and as mentioned above, it is made nothing [an owner]. However, when reproduction is performed from this "original", as mentioned above, user ID will be recorded on that duplicate and an owner will be specified as it.

[0154] Moreover, although a limit was not imposed especially about a user name with

the gestalt of above-mentioned operation, a user name may be a personal name or may be a group name like a family name. In short, it is sharable in the range which is accepted to be "within the limits of individual use" on the Copyright Act.

[0155] Moreover, as two or more user ID can be registered into one record thru/or a regenerative apparatus, two or more users who correspond at said two or more user ID can share said one equipment.

[0156] Moreover, it is easy to be natural even if it makes it record on another field with record data with the gestalt of above-mentioned operation, although user ID was embedded to record data. Moreover, when dealing with record data per file like computer data, user ID can be added to record data per file.

[0157] Moreover, although it made it indispensable to connect the user ID module 20 to the data-logging regenerative apparatus 10 with the gestalt of above-mentioned operation at the time of record, it may be made to carry out comparison collating of the user ID (especially the module ID) currently stored in the nonvolatile memory 14 of the data-logging regenerative apparatus 10, and the user ID which accompanies the data for record, without connecting the user ID module 20 at the time of record.

[0158] Moreover, when the user ID memorized by nonvolatile memory 14 and the user ID which accompanies the data for record are in agreement as the record Ruhr, the user ID module 20 may enable it to perform a setup called connection needlessness to the data-logging regenerative apparatus 10.

[0159] Moreover, when calling it the user ID which accompanies the data for record, as it does not only mean being embedded to the data for record but **** was also carried out, acquiring user ID also contains from the TOC area of a record medium, and area separate from the record part of the other data for record. Moreover, also when making applicable to record the data downloaded from the Internet, and user ID is added to middle or the last at the beginning of the download data, it contains.

[0160] It cannot be overemphasized that it is what it was not reproduced from a record medium in the data-logging regenerative apparatus 10, and the data for record were made into the analog input, or contains the data made into the digital input. In that case, the input data does not need to be playback data reproduced from the disk.

[0161] In addition, although the gestalt of above-mentioned operation took audio data for the example as contents for record, all of the contents which need copyright managements, such as image data, a program and the program of a game, and data, are the candidates for record of this invention.

[0162] Moreover, as a record medium, you may be not only a disk but card type memory, the hard disk of semiconductor memory and a hard disk drive unit, etc.

Furthermore, the data used as the candidate for record may be data which are not restricted to the data reproduced from the record medium, and are sent through a wire telephone circuit, a radio telephone network, or the Internet, as the above-mentioned was also carried out.

[0163] Moreover, although the gestalt of above-mentioned operation took audio data for the example as contents for record, all of the contents which need copyright managements, such as image data, a program and the program of a game, and data, are the candidates for record of this invention.

[0164] Moreover, it is easy to be natural even if it makes it record on another field with record data with the gestalt of above-mentioned operation, although user ID was embedded to record data. Moreover, when dealing with record data per file like computer data, user ID can be added to record data per file.

[0165]

[Effect of the Invention] As explained above, according to this invention, the user ID registered at the time of record is recorded with record data. At the time of playback When the user ID prepared for nonvolatile memory 14 etc. is compared with the user ID detected from the data read from the record medium and both are in agreement, only within an individual use gestalt, reproduction can be made possible by having been made to perform a normal playback output.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the block diagram showing the gestalt of implementation of the 1st of this invention.

[Drawing 2] It is a flow chart for explanation of the gestalt of implementation of the 1st of this invention of operation.

[Drawing 3] It is a flow chart for explanation of the gestalt of implementation of the 1st of this invention of operation.

[Drawing 4] It is a flow chart for explanation of the gestalt of implementation of the 1st of this invention of operation.

[Drawing 5] It is a part of flow chart for explanation of the record processing in the gestalt of implementation of the 1st of this invention.

[Drawing 6] It is a part of flow chart for explanation of the record processing in the gestalt of implementation of the 1st of this invention.

[Drawing 7] It is a part of flow chart for explanation of the regeneration in the gestalt of implementation of the 1st of this invention.

[Drawing 8] It is a part of flow chart for explanation of the regeneration in the gestalt of implementation of the 1st of this invention.

[Drawing 9] It is the block diagram of the gestalt of implementation of the 2nd of this invention.

[Drawing 10] It is drawing for explaining the outline of the whole accounting system in the gestalt of implementation of this invention.

[Drawing 11] It is a flow chart for explaining the accounting at the time of the record in the gestalt of implementation of this invention (at the time of a duplicate).

[Drawing 12] It is a flow chart for explaining the accounting at the time of the playback in the gestalt of implementation of this invention.

[Drawing 13] It is drawing for explaining the duplicate generation limit approach by the SCMS method.

[Description of Notations]

10 [-- The system control section, 14 / -- Nonvolatile memory, 15 / -- An input control unit, 16 / -- A display, 20 / -- A user ID module, 21 / -- Cipher processing and a control section, 22 / -- Nonvolatile memory, 23 / -- An input control unit, 24 / -- A display, 30 / -- A disk, 40 / -- A cable, 50 / -- Personal computer] -- A data-logging regenerative apparatus, 11 -- A record reconditioned-engine chip, 12 -- Record / regenerative-apparatus section, 13